

**CITY OF CARLSBAD  
CLASS SPECIFICATION**

**JOB TITLE:           JOB SERIES FOR ENGINEERING PROFESSIONALS**

**DEPARTMENT:     AS ASSIGNED**

**BASIC FUNCTION/DISTINGUISHING CHARACTERISTICS:**

This job structure includes employees who perform professional engineering work independently or under direction of a registered professional engineer on a variety of projects and on-going programs in support of the public works infrastructure, transportation planning and operations, and land-use development of the City of Carlsbad. Engineering professionals are individual contributors who may work independently or under the direction of a registered professional engineer or engineering supervisor and who use their underlying knowledge, skills and abilities in the fields of civil, construction, land-use, land surveying, utilities, and transportation/traffic engineering, along with skills and abilities in research, design, analysis, project management, program management and personnel management to perform their duties.

The job level of an Engineering Professional (as described by the attached KSA matrix) is determined by two factors. The first is “business need” to have a job performed at a certain level, as defined by the specific responsibilities designed into the role, and how the organization is structured. The second is that the job incumbent must possess the knowledge, skills and abilities to function at the assigned professional level, as demonstrated by their work and contributions.

Typically, an Engineering Professional must possess and demonstrate at least 80% of the KSA’s at a given level to be assigned to that level.

The following are examples of the types of job duties that may be found in the Engineering Professional roles:

**KEY RESPONSIBILITIES:**

**Not all responsibilities apply. Managers should identify and clarify specifics for those that do apply.**

Perform professional civil engineering work, alone or under the direction of a registered professional engineer, in the design and construction of streets, sidewalks, water and sewage facilities, drainage structure, traffic control devices and other public capital projects.

Serve as a team member or team leader for engineering public works, transportation planning and operations or land-use development programs and projects within area of assignment.

Design and prepare, and /or supervises the preparation of plans, specifications, and estimates for City Capital Projects and maintenance, repair and operations (MRO) projects in assigned area.

Supervise and coordinate project management activities technical areas assigned, including using standard good practices of project and program management. Develop detailed project plans. Manage execution to plan, on time, and within budget.

Manage and administer contracts of City's Capital Projects or MRO projects to ensure completion within scope, cost, schedule, budgeted resources and standards and practices.

Coordinate and monitor project progress to ensure timely completion of all phases of the project, within budget. Attend or conduct construction meetings; make site visits.

Design or specify inspection and testing mechanisms and equipment.

Inspect and supervise inspection on assigned projects; make field changes within the limits of design and cost restrictions; resolve disputes concerning plans, specifications and other work.

Coordinate City engineering projects with other City departments, public agencies and utility companies for orderly planning, scheduling and construction.

Assist in preparation of City Capital Project Plan for area assigned. May assist other City departments in preparing the City Capital Project Plan.

May plan, administers and monitor design contracts for City Capital Project Plan.

Work with and/or manage external consultants: Coordinate project design and development with outside consultants. Prepare requests for proposals for services. Establish conditions of contract approval. Meet with developers and consultants to discuss concepts of general requirements for projects. Assist in the selection of consultants. Coordinate and evaluates consultants' work. Prepare periodic reports and updates.

Prepare professional service agreements, contracts and contract documents related to the execution of City Capital Projects, or MRO projects related to the City infrastructure. Review and approve invoices related to projects assigned.

Interact closely with consultants, contractors, suppliers, vendors or sub-contractors to improve quality and service.

Serve as technical support and resources to the Operations and Maintenance staff of the division/department assigned.

Participate in the development of standard engineering specifications, criteria and policy and procedure statements on engineering matters; provide technical advice to field operations, other City departments and the general public in the interpretation of City ordinances, policies, regulations and procedures.

Perform assignments to help formulate, update or revise City Engineering Standards and/or Municipal Code in related areas. Interpret and apply regulations from external agencies in related area.

Design, conduct, review, and /or approve internal or externally provided technical engineering studies.

Perform as team leader or team member of engineering surveying crews, as assigned.

Use computer-aided design (AutoCAD) to prepare detailed drawings, plans and technical specifications for City Capital Projects and or maintenance, repair and operations projects related to the City infrastructure. Using GIS Database, prepare maps and exhibits using AutoCAD and/or Arc map.

Use on-line databases and hard copy files to perform research to find records, drawings maps, agreements, etc to reference and incorporate in projects.

Collect, analyze, interpret, report and apply technical data. Prepare and/or review engineering reports, studies, calculations, including geotechnical studies, odor studies, flow studies, biology studies, preliminary engineering reports, etc. Review the work of consultants, when they submit reports or studies of this nature.

Assist in the preparation and administration of the annual budget for assigned engineering division.

Maintain engineering-related records and systems required to meet City engineering standards, municipal code, and reporting/monitoring requirements of external agencies.

Serve as a liaison between the organization and regulatory agencies.

Prepare various staff reports, council resolutions, agenda bills, environmental impact reports, negative declaration and reports required by state and federal agencies.

Attend Council meetings or other agency meetings as required. Represent the City in the community and at professional meetings as required.

Make oral presentations on complex technical issues to City Council, other agencies or community groups.

Provide professional opinions and expert witness testimony as requested by the City Attorney office.

Stay current in area of expertise. Conduct literature searches on areas of importance.

May supervise, train and evaluate staff.

**In addition to many of the general Engineering Professional duties, incumbents in Development Services Engineering may perform the following duties:**

Review and process development projects for discretionary approval, applying engineering principles to assure project compliance with city engineering standards and the Carlsbad Municipal Code.

Review plans, maps, permits, legal descriptions, easements and specifications of development projects and encroachment permit applications.

Interpret, review and analyze complex development projects for accuracy, suitability, completeness and compliance with City standards and procedures. Develop and submit conditions of approval.

Work with private developers and engineers to interpret City policies and ordinance requirements, review plans, and coordinate the work involved in processing privately sponsored residential, commercial and industrial projects.

Review and approve technical studies for land development projects and transportation and operations planning.

Calculate fees and issue permits.

Assist customers at the public counter, answer inquiries by the public and city staff

**In addition to many of the general Engineering Professional duties, incumbents in Traffic and Transportation Engineering may perform the following duties:**

Assist in the review and analysis of complex traffic planning studies and reports.

Complete or supervise in-house design of traffic signals, signing/stripping and temporary traffic control.

Evaluate and make recommendation on traffic control device requests from the public (STOP signs, striping, red curb, etc). Investigate and respond to citizen requests, research traffic records/collision history.

Review/approve temporary traffic control plans for construction and Special Events.

Review developer-submitted signing/stripping plans and traffic signal plans.

Implement and manage Carlsbad Residential Traffic Management Program.

Manage the Pavement Management program.

**QUALIFICATIONS:**

Knowledge Skills and Abilities are located in the attached KSA matrix.

**EXPERIENCE AND EDUCATION:**

Knowledge Skills and Abilities are located in the attached KSA matrix.

**SPECIAL REQUIREMENTS:**

Knowledge Skills and Abilities are located in the attached KSA matrix.

**PHYSICAL /MENTAL REQUIREMENTS AND WORKING ENVIRONMENT:**

While performing the duties of this class, an employee is regularly required to sit; talk or hear, in person and by telephone; use hands to finger, handle, feel or operate standard office equipment; and reach with hands and arms. Specific vision abilities required by this job include close vision and the ability to adjust focus to read and operate office equipment as necessary during the course of the work assignments.

While performing the duties, employees of this class are regularly required to use written and oral communication skills; read and interpret financial and statistical data, information and documents; analyze and solve problems; use math and apply mathematical reasoning and abstract statistical concepts; observe and interpret people and situations; learn and apply new information or skills; perform highly detailed work on multiple, concurrent tasks; work under intensive deadlines; and interact with staff, City Council members and others encountered in the course of work.

The employee works under typical office conditions and the noise level is usually quiet. Regular duties include traveling to construction job sites and/or development properties, with the typical conditions associated with construction and/or undeveloped/underdeveloped property. Employee is regularly required to attend meetings and travel within and outside city limits during normal work hours and in the evenings and on weekends.

DATE APPROVED: June 21, 2011

The position of Sr. Engineer is an at-will management classification.